

# Water & Wastewater CIO Forum

## Utility Business & Operations Continuity

### Webinar

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- Raja Kadiyala
- Chris Dermody
- Megan Ellis
- Adi Karisik
- John Rickermann

# Utility Business & Operations Continuity

- Content:
  - Introductions – Raja Kadiyala
  - General Guidance – Chris Dermody
  - Business Continuity in the Water Sector – Megan Ellis
  - Cyber Security in Light of COVID-19 – Adi Karisik
  - Lessons Learned – John Rickermann
  - Q & A – Raja Kadiyala

# Utility Business & Operations Continuity

- Presenters:



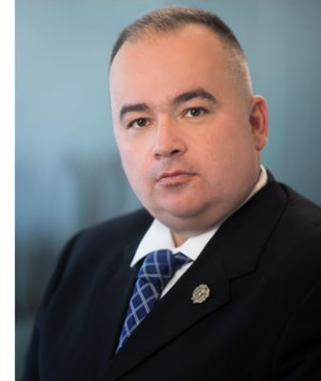
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Senior Digital Solutions  
Consultant



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Senior Emergency  
Preparedness  
Technologist



Adi Karisik,  
Global Technology  
Leader for Operational  
Technology



John H. Rickermann,  
Vice President, OMFS  
Technical Services Group

# General Guidance / Safety Moment

What does the COVID-19 Pandemic mean for Utilities?

- ❖ Remote Working for many
- ❖ Increasing Reliance on Digital Platforms & Channels

# Care for Your People

## Establish Clear Expectations

- Balancing Kids and other Family needs
- Flex Hours - Using more of the 24 hour for getting job/work done
- Ensure team members connect on work
- Remote ~~≠~~ Solo

## Focus on Performance Outcomes

- Be intentional about setting individual & team objectives
- Encourage collaboration
- Clarify, track, and share commitments with team

## Open and Build Lines of Communication

- Schedule check-ins to help with any miscommunications
- Provide ongoing feedback in regular one-on-ones
- Create groups in your collaboration tool to drive ongoing communication
- Hold virtual happy hours - we call them “Quaran-Teams”

# Remote Working for Many – What's Needed?



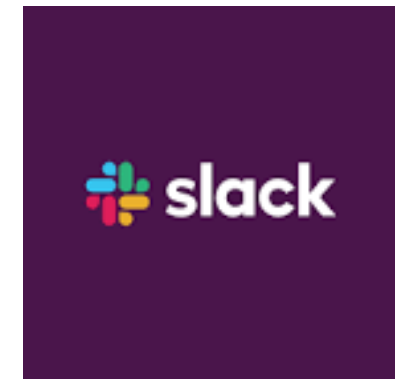
# Review & Advance Your Security Posture



# Pick Complementary Collaboration Platforms



Google Hangouts





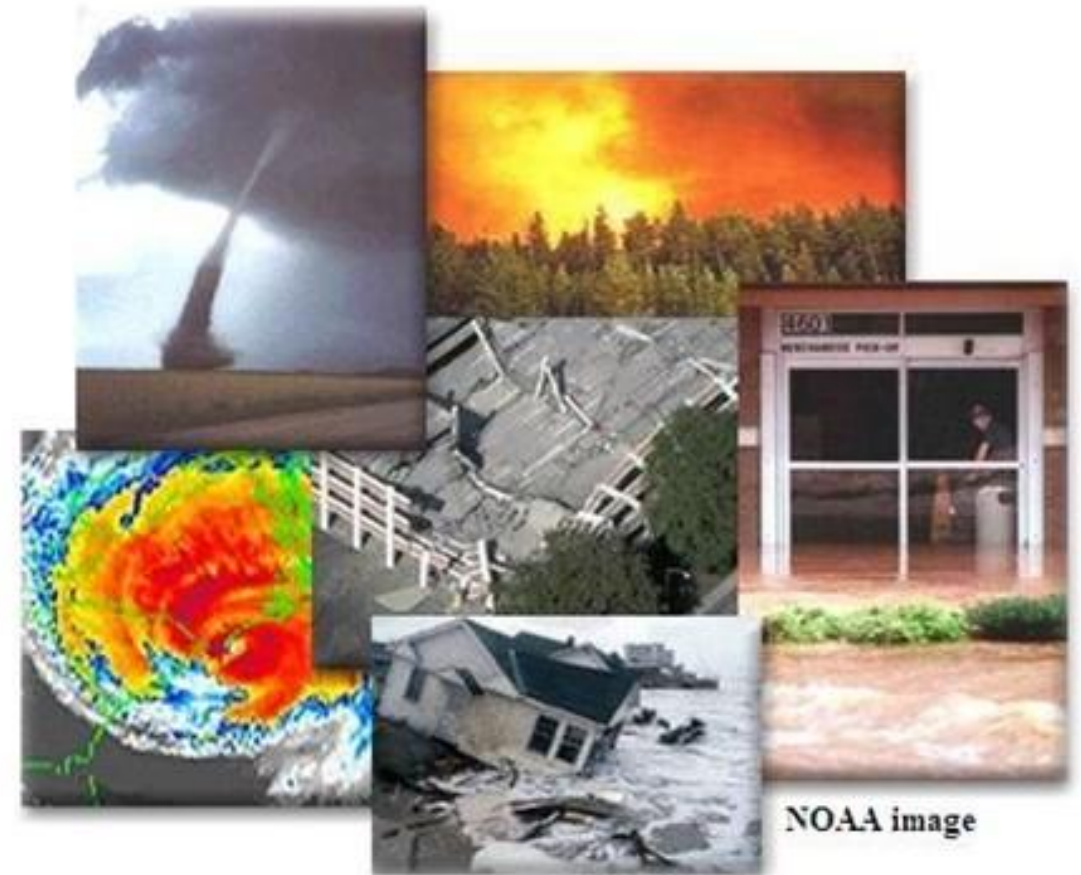
# Practical Guidance & Tips

- Access to internal Applications & data
- Encourage smart usage practices
- Increased Monitoring
- Addressing poor ISP services at Employee's homes









# Business Continuity: Understanding Your Business

- What functions are critical?
- What are the ingredients of those functions? (people, IT/OT/SCADA, equipment, facility)
- What is the impact of them being disrupted (internally & externally)?
- How long could you cope without them?
- Exercise and testing with any possible disruption scenarios



# Business Continuity Planning and Integration

- Emergency Response Plan – what to do when  hits the fan
- IT Disaster Recovery Plan – what to do to get it back to normal 
- Crisis Management Plan – what to tell people 
- Business Continuity Plan – what to do to continue operations 
- Response Plans (part of ERP) 
- Recovery Plans (part of ERP) 
- Standard Operating Procedures (SOP) to support Mission Essential Functions (part of BCP)
- Power Response Plans
- Natural Hazard Response Plans
- Others?

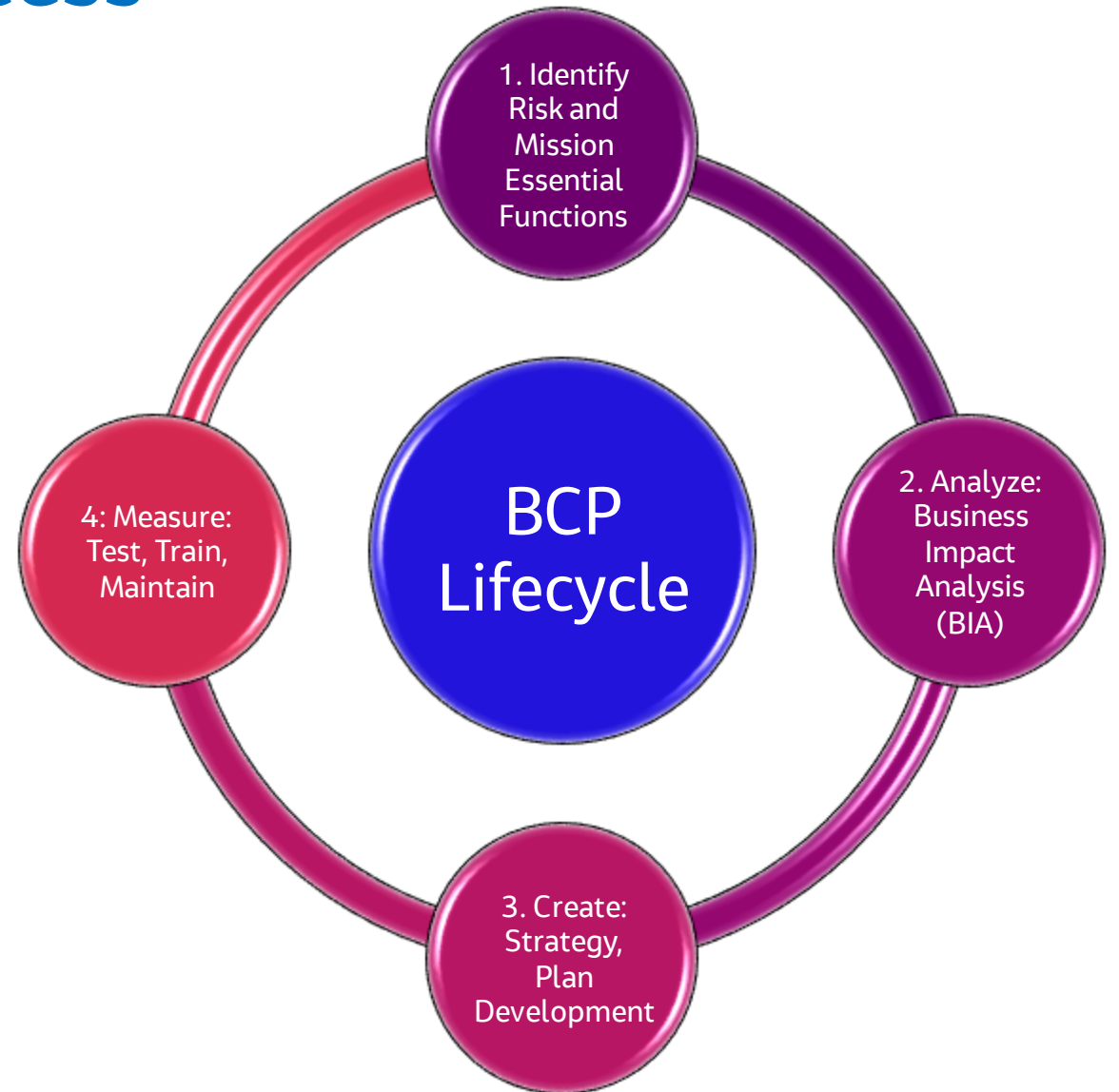


# RRA leading into BIA



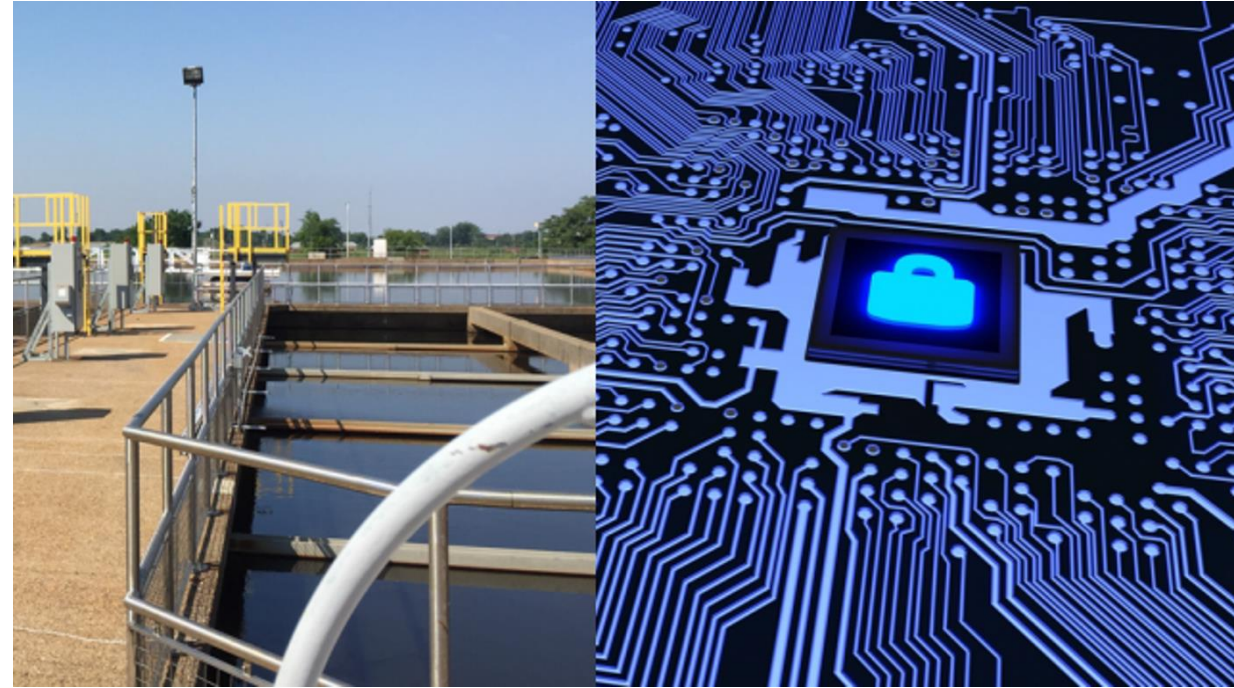
# The Business Continuity Process

- Conduct a Business Impact Analysis (BIA) to identify time-sensitive or mission essential business functions and processes and the resources that support them.
- Identify, document, and implement to recover critical business functions and processes.
- Organize a business continuity team and compile a business continuity plan to manage a business disruption.
- Conduct training for the business continuity team and testing and exercises to evaluate recovery strategies and the plan.



# Water Resiliency Observations (through AWIA)

- **Lack of OT policies, plans and procedures**
- Lack of employee cybersecurity training
- Lack of coordination between OT and IT
- **Reliance on “manual controls” during critical events (with COVID-19 might not be achievable)**
- Lack of segregation of IT and OT networks (Business/Operations)
- Lack of standards in municipal operated procurements (i.e. enterprise switches bought for OT environment)
- Lack of critical systems renewal plans (critical components utilized far beyond EOL)
- Lack of next generation end point protection tools (AV)
- **Inability to control and monitor OT network**



# Miami Superbowl - Support Lessons Learned

North Miami Beach WTP needed external expertise to:

- Protect human and technology / ICS assets
- Ensure stable operations during critical event
- Challenges
- Process
- Key Actions
- Technologies Used



Operations Management and Facilities Services

# Technology Applications for O&M





# About Operations Management and Facility Services

4,500\* staff

Startup and operations of 10 new cities since 2005

300+ facilities and project sites

Supporting 142 clients

[\\*includes O&M staff in other Jacobs business units](#)

Serving 12+ million people each day

1.1 billion gallons/day treatment capacity

15 Facilities Management clients

40 million square feet managed



WATER/WASTEWATER OM



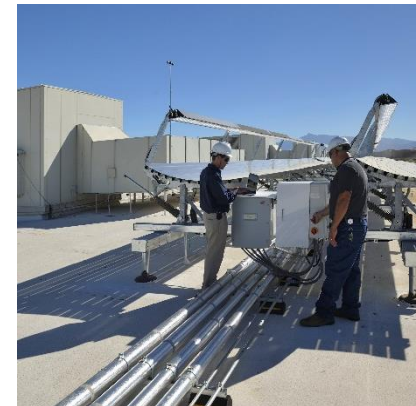
PUBLIC WORKS



MUNICIPAL SERVICES



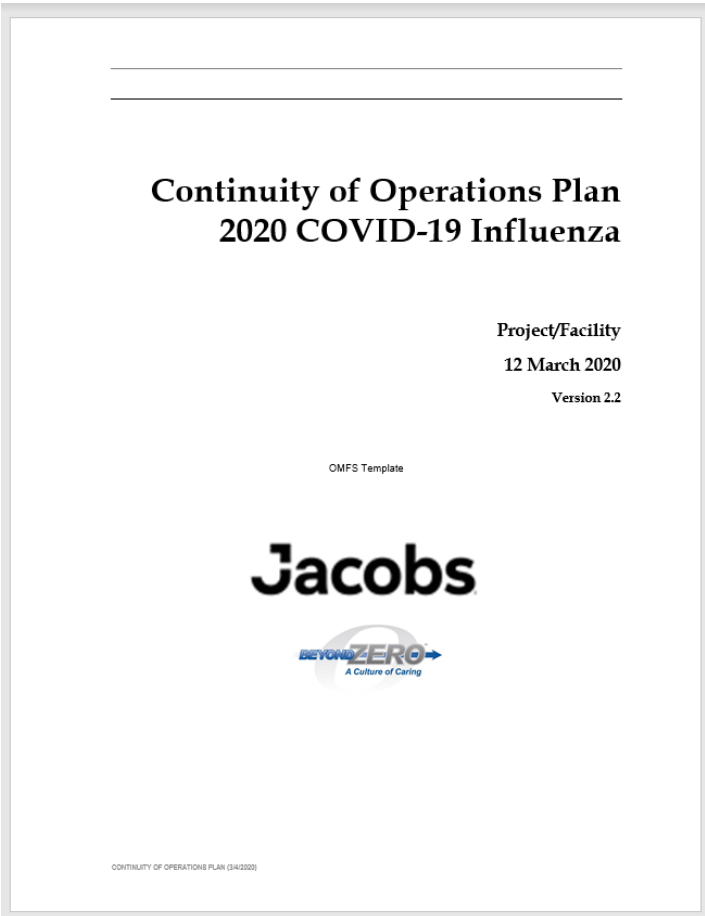
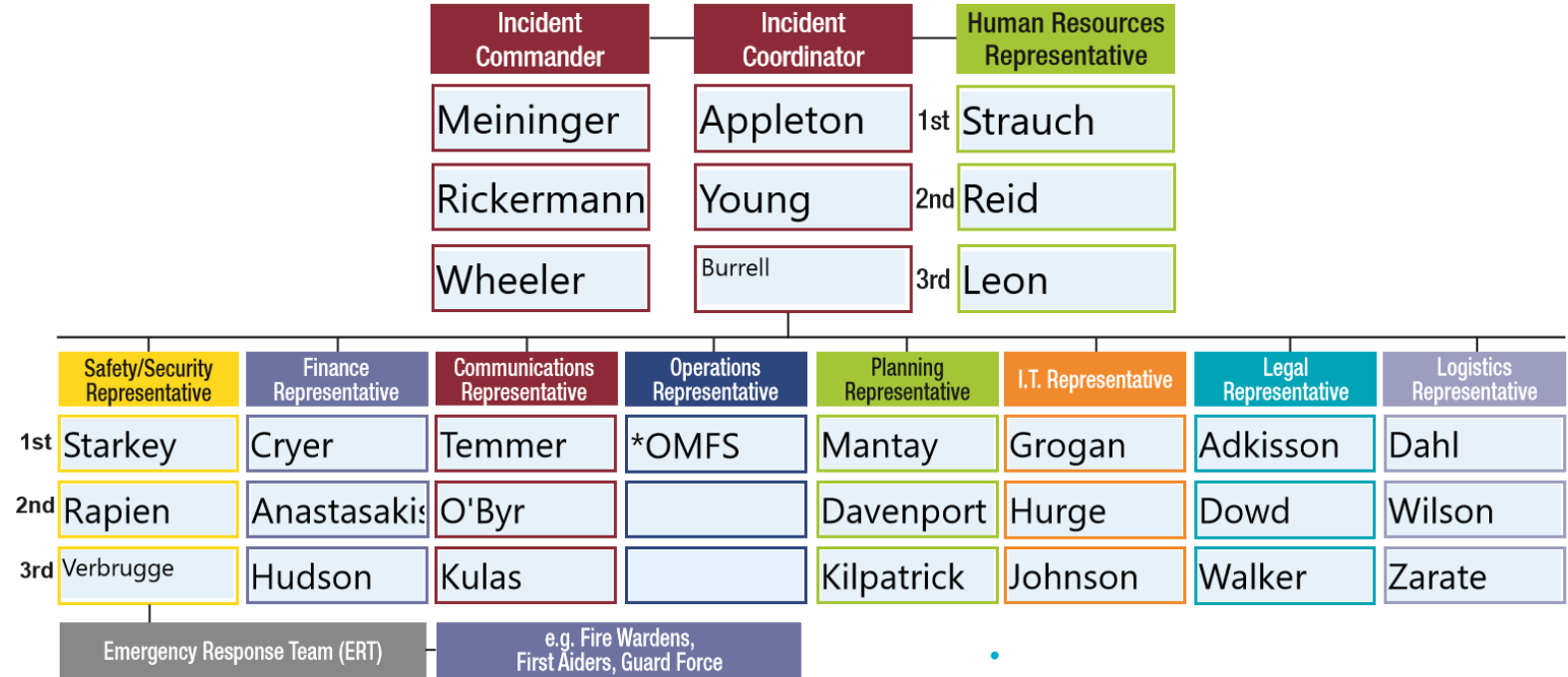
OM/ASSET-MANAGEMENT  
CONSULTING



FACILITIES MANAGEMENT

# Continuity of Operations Plans

## Emergency Management Team (EMT) (Redundancy at every position)



# Roles and Responsibilities – I.T. Representative

## Preparedness

- ❑ Participate in Emergency Response Plan (ERP) review and updates
- ❑ Review and revise IT Disaster Recovery Plan (DRP)

## Response

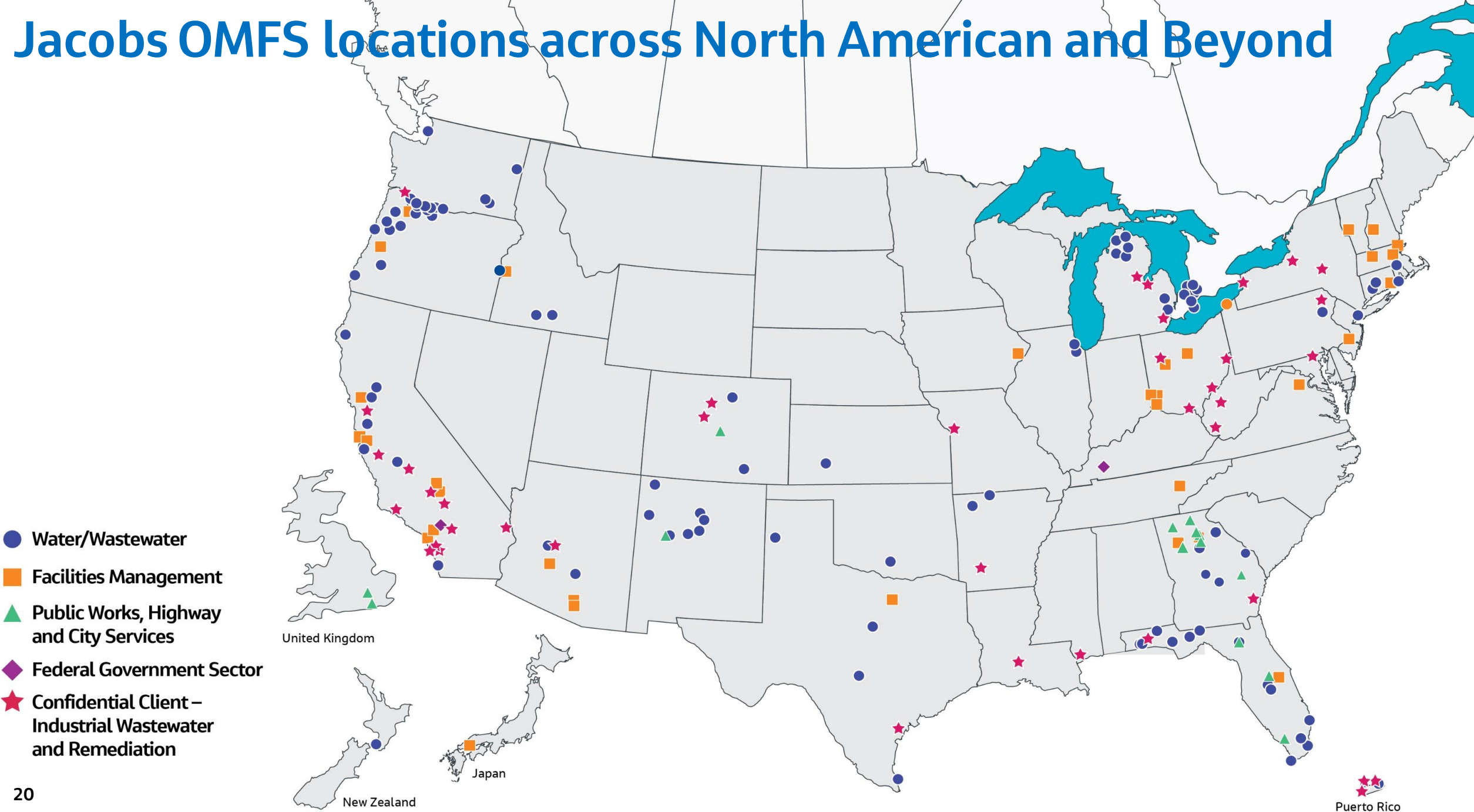
- ❑ Report to the Incident Commander (IC)
- ❑ Prepare and test satellite phone (SATPHONES). All #s need to be preassigned
- ❑ Work with CR and support efforts to use Jacobs' Mass Communications System
- ❑ Coordinate efforts with IT disaster recovery services
- ❑ Ensure alternate work sites are activated and ready for use
- ❑ Monitor and maintain IM system operability
- ❑ Coordinate efforts to secure IT equipment
- ❑ Conduct preliminary damage assessment of Information Technology
- ❑ Develop and distribute IM Situational Status Reports as needed

## Recovery

- ❑ Assist with the preparation of other reports, as necessary, including an after-incident report
- ❑ Assist IC with incident report
- ❑ Participate in the post-incident critique



# Jacobs OMFS locations across North America and Beyond



# Hands-Free Remote Mentoring Support



# Q & A